| | Form PTO-1449 | | | | | ket No. | 1 | Serial No. 10/647,703 | |
|---------------------------|--|--|-----------------------|------------------------|--|------------|---------------------------------------|-----------------------|--|
| | Tal | MATION DISCLO | SURE CI | TATION | 62020-1260 Applicant Bakir, et al. | | | | |
| JAH 2 3 2004 | (Use several sheets if necessary) | | | | | , | Group 2833 | | |
| BADEMA | | | U.S. PA | TENT DOCUMEN | TS | | | | |
| Examiner Item Initials | | Document Date Nam Number | | ie · | Class | Subclass | Filing Date If Appropriate | | |
| ch, | - A | 4,380,365 | 4/19/83 | Gross | | 350 | 96.18 | 5/23/79 | |
| | В | 5,046,800 | . 9/10/91 | Blyler, Jr., et al. | - | 385 | 131 | 10/9/90 | |
| | С | 5,130,356 | 7/14/92 | Feuerherd, et al. | | 524 | 96 | 2/1/90 | |
| | D | 5,302,656 | 4/12/94 | Kohara, et al. | | 524 | 579 | 4/10/91 | |
| | E | 5,359,208 | 10/25/94 | Katsuki, et al. | | 257 | 82 | 2/26/93 | |
| | F | 5,454,196 | 7/18/95 | Ohkawa, et al. | | 522 | 100 | 7/1/94 | |
| | G | 5,462,995 | 10/31/95 | Hosaka, et al. | | 525 | 332.1 | 6/9/92 | |
| 1. | Н | 5,581,414 | 12/3/96 | Snyder | | 359 | 819 | 2/22/93 | |
| | I | 5,896,479 | 4/20/99 | Vladic | | 385 | 59 | 4/9/97 | |
| | J | 6,022,498 | 2/8/00 | Buazza, et al. | | 264 | 1.38 | 4/19/96 | |
| | K | 6,039,897 | 3/21/00 | Lochhead, et al. | | 264 | 1.24 | 8/28/97 | |
| | <u> </u> | | FOREIGN | PATENT DOCUM | ENTS | | | , | |
| | | Document Number | Date | Country | | Class | Subclass | Translation | |
| | | | | | | | · · · · · · · · · · · · · · · · · · · | Yes No | |
| | <u> </u> | | | | | l | | | |
| | | , | | ling Author, Title, L | | | | | |
| gr | Chen, et al.; Fully Embedded Board-Level Guided-Wave Optoelectronic Interconnects; June, 2000; Proceedings of IEEE, Vol. 88, No. 6; pp 780-793 | | | | | | | ceedings of | |
| on. | М | Wiesmann, et al.; Singlemode Polymer Waveguides for Optical Backplanes; December 5, 1996; Electronics Letters, Vol. 32, No. 25; pp 2329-2330 | | | | | | | |
| on | N | Barry, et al.; Highly Efficient Coupling Between Single-Mode Fiber and Polymer Optical Waveguides; August, 1997; IEEE Transactions on Components, Packaging, and Manufacturing Technology - Part B, Vol. 20, No. 3; pp 225-228 | | | | | | | |
| or | 0 | Lee, et al.; Fabrication of Polymeric Large-Core Waveguides for Optical Interconnects Using a Rubber Molding Process; January, 2000; IEEE Photonics Technology Letters, Vol. 12, No. 1; pp 62-64 | | | | | | | |
| Or | P | Schmeider, et al.; Electro-Optical Printed Circuit Board (EOPCB); 2000 Electronic Components and Technoogy Conference; pp 749-753 | | | | | | | |
| on | Q | Mederer, et al.; 3Gb/s Data 2001; IEEE Photonics Tech | | | | ated Polyi | mer Wavegui | des; September, | |
| conformance | and not | itial if citation considered, who t considered. Include copy of the | ether or not citation | t communication to the | applicant. | | rough citation | if not in | |
| EXAMINE | B'S SI | GNATURE: Moja | | DATE | CONSIDERED: | [18] | 05 | 7 60) 0 600 60 | |

| Form PTO-1449 | | | | | Attorney Docket No. 62020-1260 | | | Serial No. 10/647,703 | | |
|----------------------|---|--|--|-------------------------|--------------------------------|------------------------|----------------------------|--|--|--|
| • | 100 | MATION DISCLO | SURE CI | TATION | Applicant Bakir, et al. | | | | | |
| JAN 2 3 20 | JAN 23 TOW (Use several sheets if necessary) | | | | | Filing Date Group 2833 | | | | |
| CORADE | ARL | | U.S. PA | TENT DOCUMEN | TS | | | | | |
| Examiner Initials | Item | Document Number | | | Class | Subclass | Filing Date If Appropriate | | | |
| M | R | 6,156,394 | 12/5/00 | Schultz Yamasaki, | et al. | 427 | 536 | 4/17/98 | | |
| 1 | S | 6,206,673 | 3/27/01 | Lipscomb, et al. | | 425 | 174.4 | 5/30/95 | | |
| | Т | 6,253,004 | 6/26/01 | Lee, et al. | | 385 | 31. | 7/9/99 | | |
| | U. | 6,259,567 | 7/10/01 | Brown, et.al. | | 359 | 668 | 11/23/98 7/27/99 6/25/99 | | |
| | V | 6,262,414 | 7/17/01 | Mitsuhashi | | 250 | 216 | | | |
| | w | 6,272,275 | 8/7/01 | Cortright, et al. | | 385 | 129 | | | |
| | Х | 6,281,508 | 8/28/01 | Lee, et al. | | 250 | 396 | 2/8/99 | | |
| , | Y | 6,432,328 | 8/13/02 | Hamanaka, et al. | Hamanaka, et al. | | 1.36 | 1/10/01 | | |
| | Z | 6,500,603 | 12/31/02 | Shioda | | 430 | 321 | 1,1/9/00 | | |
| | AA | | | | | | | | | |
| | BB | | | | | | | <u>. </u> | | |
| | <u> </u> | | FOREIGN | PATENT DOCUM | ENTS | | - | | | |
| | | Document Number | Date | Country | | Class | Subclass | Translation | | |
| | | | | | | | | Yes No | | |
| | | | 170 170 17 | | D | | <u> </u> | | | |
| | | | | ding Author, Title, L | • | | | | | |
| 10m | Schröder, et al.; Polymer Optical Interconnects for PCB; 2001; Session 13: Photonic Polymers II; pp 337-343 | | | | | | | | | |
| OR | DD | Glukh, et al.; High performance Polymeric Materials for Waveguide Applications; August, 2000; SPIE - The International Society for Optical Engineering, inear, Nonlinear, and Power Limiting Organics, San Diego, Volume 4106; pp 1-11 | | | | | | | | |
| or | EE | Liu, et al.; Plastic VCSEL Array Packaging and High Density Polymer Waveguides for Board and Backplane Optical Interconnect; 1998; Electronic Components and Technology Conference; pp 999-1005 | | | | | | | | |
| 00 | FF | Bakir, et al.; Sea of Dual Mode Polymer Pillar I/O Interconnections for Gigascale Integration; 2003; IEEE International Solid State Circuits Conference; 8 pages | | | | | | | | |
| on | GG | Beuret, et al.; Microfabrication of 3D Multidirectional Inclined Structure by UV lithography and Electroplating; Micro Electro Mechanical Systems, 1994, MEMS'94, Proceedings, IEEE Workshop on January 25-28, 1994; pp 81-85 | | | | | | | | |
| dh | нн | Wang, et al.; Studies on A Novel Flip-Chip Interconnect Structure-Pillar Bump; Electronic Components and Technology Conference, 2001, Proceedings, 51st, 29 May-1, June 2001; pp 945-949 | | | | | | | | |
| conformance | and no | nitial if citation considered, what considered. Include copy of | ether or not citati this form with ne | xt communication to the | applicant. | | nrough citation | if not in | | |
| EXAMINE | R'S SI | GNATURE: | bja | | E CONSIDERED | 1/18 | 05 | T 00) 0 (77) 0 | | |

| Form PT | orm PT 449 | | | | Attorney D 62020-126 | | Serial No. 10/647,703 | | | | |
|------------------------------------|-----------------------------------|---|------------------|------------------|-------------------------|--------------|--------------------------|----------------------------|-------------|--|--|
| 13 INFORMATION DISCLOSURE CITATION | | | | | Applicant Bakir, et al. | | | | | | |
| PADEMA | (Use several sheets if necessary) | | | | Filing Date 8/25/03 | | | Group | | | |
| | | | U.S. PATE | NT DOCUMEN | TS | | | | | | |
| Examiner Initials | ltem | Document Date Number | | Nan | ne | Class | Subclass | Filing Date If Appropriate | | | |
| | II | | | | | | | ļ | | | |
| | JJ KK | | | | | | | - | | | |
| | 1111 | | FOREIGN PA | TENT DOCUM | ENTS | | | | | | |
| | | Document Number | Date | Count | try | Class | Subclass | Translation | | | |
| | | | | | | | | Yes | No | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | 1 | | | · | | | | | | |
| | | OTHER DOCU | MENTS (Including | Author, Title, L | ate, Pertinen | t Pages, etc | L c.) | 1 | l | | |
| on | IL | OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.) Bakir, et al.; Sea of Polymer Pillars: Dual-Mode Electrical Optical Input/Output Interconnections; in Proc. of Int. Interconnect Technology Conference; pp. 77-79; 2003 | | | | | | | | | |
| 01 | ММ | Bakir, et al.; Sea of Polymer Pillars: Compliant Wafer-Level Electrical-Optical Chip I/O Interconnections; IEEE Photonics Technology Letters, Vol. 15, No. 11, November 2003; pp 1567-1569 | | | | | | | | | |
| on | NN | Bakir, et al.; Optical Transmission of Polymer Pillars for Chip I/O Optical Interconnections; IEEE Photonics Technology Letters, Vol. 16, No. 1, January 2004; pp 117-119 | | | | | | | | | |
| on | | Chandrasekhar, et al.; Modeling and Characterization of the Polymer Stud Grid Array (PSGA) Package: Electrical, Thermal and Thermo-Mechanical Qualification; IEEE Transactions on Electronics Packaging Manufacturing, Vol. 26, No. 1, January 2003; pp 54-67 | | | | | | | | | |
| | | | | | | | , | | | | |
| | | I itial if citation considered, w considered. Include copy of | | | | Draw line th | rough citation | if not in | | | |
| | | GNATURE: | non more | | CONSIDERE | D: 7/1 | 18/05 | <u>·</u> | | | |
| | | | / / | Patent and Trad | emark Office; | U. S. DEPA | RTMENT O | F COMMI | ERCE | | |